The Therapeutic Alliance: Implications for our Patients and Ourselves

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MNPTA Spring Conference
Outline

• Theoretical underpinnings of the therapeutic alliance
• Synopsis of my research
• Experiential: stress resilience technique
• Implications for our patient care and ourselves as clinicians
• Questions
The Polyvagalal Theory
There is a strong link between the functioning of the autonomic nervous system, especially the heart, with the capacity to express prosocial emotion such as compassion.
Polyvagal Theory and the ANS
The Vagus Nerve and the Heart
Heart Rate Variability (HRV)
The Polyvagal Theory and Prosocial Emotion

Regulation of our stress response and healing AND regulation of human sociality: both from same autonomic and neuroendocrine “circuits”!
Social Engagement and Autonomic Arousal States

Internal Visceral State and External Environment

ANS

SAFETY
- Balanced arousal level, high HRV
- Parasympathetic “rest/digest”: ventral vagal system
- Prosocial emotion

DANGER
- Hyperarousal, poor HRV
- Sympathetic “fight/flight”: mobilization
- Anger, fear

IMMINENT LIFE THREAT
- Hypoarousal, poor HRV
- Extreme parasympathetic “freeze”: immobilization via dorsal vagal system
- Social withdrawal, collapse
My research inspiration

Heart rate variability (HRV)
Neurocardiology and the polyvagal theory
Academic concentration in healthcare systems

Application of neurocardiology theory to a practical need in healthcare
Random Fun Fact
My Research
PILOT RESEARCH
Stress Resilience Training for Healthcare Professionals

Personal and Organizational Quality

- Personal Quality
- Organizational Quality
- Overall Stress
- Overall Health

Pre vs. Post comparison
Stress Resilience Training for Healthcare Professionals

Self-Compassion

Pre | Post
---|---
3.0 | 4.0

The bar chart shows an increase in self-compassion scores from pre to post training.
Indices of Heart Rate Variability and Compassion in Healthcare Professionals Following Stress Resilience Training

A Randomized Controlled Trial
Self-Report Measures

• Self-Compassion Scale
• Compassion Satisfaction
Physiological Data

- Mean heart rate and respiration rate
- HRV:
  - SDNN
  - RMSSD
  - pNN50
  - HF n.u.
  - LF n.u.
  - Peak frequency
I am in Group A
Training Protocol

For all 3 groups

- One-hour training session for each group at Week 1, and 30-min follow-up group session at Week 2.
- Home practice throughout the 4 weeks: daily practice of 10 mins, twice per day
- Online log
Training Protocol

Participants were randomized into one of 3 protocols:

A. Heart-Centered Breathing only
B. Heart-Centered Breathing plus a pacer (“Resonant Heart Breathing”)
C. Heart-Centered Breathing plus Heartfelt Emotion (HeartMath’s “Quick Coherence” technique)
HRV Analysis Results

RR Interval Time Series

Selected Detrended RR Series

Time-Domain Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean RR</td>
<td>(ms)</td>
<td>927.4</td>
</tr>
<tr>
<td>STD RR (SDNN)</td>
<td>(ms)</td>
<td>46.2</td>
</tr>
<tr>
<td>Mean HR</td>
<td>(1/min)</td>
<td>64.88</td>
</tr>
<tr>
<td>STD HR</td>
<td>(1/min)</td>
<td>3.39</td>
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<tr>
<td>RMSSD</td>
<td>(ms)</td>
<td>35.1</td>
</tr>
<tr>
<td>N50</td>
<td>(count)</td>
<td>82</td>
</tr>
<tr>
<td>pNN50</td>
<td>(%)</td>
<td>15.0</td>
</tr>
<tr>
<td>RR triangular index</td>
<td></td>
<td>12.721</td>
</tr>
<tr>
<td>TINN</td>
<td>(ms)</td>
<td>210.0</td>
</tr>
</tbody>
</table>

Frequency-Domain Results

FFT spectrum (Welch's periodogram: 256 s window with 50% overlap)

AR Spectrum (AR model order = 16, not factorized)

<table>
<thead>
<tr>
<th>Frequency Band</th>
<th>Peak (Hz)</th>
<th>Power (mV^2)</th>
<th>Power (%)</th>
<th>Power (nu)</th>
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</thead>
<tbody>
<tr>
<td>VLF (0.0035 Hz)</td>
<td>0.0352</td>
<td>28</td>
<td>1.4</td>
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<tr>
<td>LF (0.04-0.15 Hz)</td>
<td>0.1445</td>
<td>1736</td>
<td>84.0</td>
<td>85.1</td>
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<tr>
<td>HF (0.15-0.4 Hz)</td>
<td>0.1529</td>
<td>303</td>
<td>14.7</td>
<td>14.9</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2067</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LF/HF</td>
<td></td>
<td>5.727</td>
<td></td>
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<table>
<thead>
<tr>
<th>Frequency Band</th>
<th>Peak (Hz)</th>
<th>Power (mV^2)</th>
<th>Power (%)</th>
<th>Power (nu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLF (0.0035 Hz)</td>
<td>0.0391</td>
<td>63</td>
<td>3.0</td>
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<tr>
<td>LF (0.04-0.15 Hz)</td>
<td>0.1289</td>
<td>1717</td>
<td>82.8</td>
<td>85.4</td>
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<tr>
<td>HF (0.15-0.4 Hz)</td>
<td>0.1523</td>
<td>293</td>
<td>14.1</td>
<td>14.6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2074</td>
<td></td>
<td></td>
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<tr>
<td>LF/HF</td>
<td></td>
<td>5.853</td>
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Participants

- Final $N = 18$, ages 28 to 62.
- 3 male, 15 female
- Physical, occupational, speech therapists
- Age, height, hours per week worked, years as a therapist, and hours per week of cardiovascular exercise were similar across groups.
Hypotheses

1) HRV will increase in the paced breathing group only.

2) Self-Compassion (SC) and Compassion Satisfaction (CS) will increase following the training for both the paced breathing and heartfelt emotion (HFE) groups and not the control group.
Research Wisdom

If at first you don’t succeed, try two more times so that your failure is statistically significant.
Results
RMSSD
Self-Compassion

- Control**: 4.0
- Paced Breathing*: 3.5
- HFE*: 3.2

**PRE** vs **POST**
Self-Compassion

![Bar chart showing comparison of SCS-SF scores between Control, Paced Breathing, and HFE groups before and after intervention. The chart indicates a marked increase in self-compassion scores post-intervention for all groups, particularly noticeable in the Control and Paced Breathing groups.](image-url)
Compassion Satisfaction

Control**

Paced**

HFE*

PRE  POST
Subjective Responses

Did the training influence patient care?
16 out of the 18 = yes.

Did the training influence interaction with colleagues?
8 = yes.

Open-ended comments
3-Month Follow Up: Self-Compassion
3-Month Follow Up: Compassion Satisfaction
3-Month Follow-Up: Open-Ended Question

“Looking back on the last 3 months, do you feel that the stress resilience training had an impact on your professional and/or personal life? Please share any thoughts you have.”
3-Month Follow-Up: Open-Ended Question

“Even though I have not practiced 10 minutes 2 times a day, I feel that I can get to the same point I achieved by practicing short breathing episodes frequently during the day. In general, I feel that I am handling my stress better since participating in the training. I feel that I am at a better place in my life because of the training. ...In general I have been much happier since completing the training. There have been some people who have noticed the change in my inner peace. Thank you for the experience.”
Summary of Findings

• Increased compassion satisfaction and self-compassion
• Trend toward improved HRV indices
• High adherence rates
• Increased self-awareness and self-efficacy
• Attenuated responses to stress
• Enhanced patient care
• Greater emotional self-regulation in relationships with patients, family, and colleagues.
• Compassion results largely maintained at 3-month follow-up
Training healthcare providers in self-regulation may facilitate self-care, prevent burnout and compassion fatigue, and optimize wellness. Perhaps more importantly, it may increase the ability to provide compassionate patient care.
640 MILES
The Case for Compassion

The Therapeutic Alliance in Patient Care
Nonspecific Treatment Effects in Pain Medicine

Specialty training in pain medicine, particularly in western societies, is seen as a technical field that requires the mastery of many interventions such as pain-relieving medications, injections, and implantable devices. The literature suggests, however, that the reason someone with chronic pain gets better has as much to do with the nonspecific effects of treatment—such as the personality of the patient and the interpersonal rela-
The Therapeutic Alliance in Physical Therapy

Call for more research on the patient-provider interactions
(10th Int’l Forum for Primary Care Research on LBP)

Therapeutic alliance associated with:

• Improved treatment adherence
• Reduced depressive symptoms
• Enhanced treatment satisfaction
• Improved physical function

(Hall et al. 2013)
The Case for Compassion

- Critical priority in healthcare reform
- Healthcare systems benefit
- Patients benefit
- Healthcare providers benefit
Compassionate care influences:

- **Prevention and management of disease**  
  (Sequist et al., 2008)
- **Self-care**
- **and physiology....**
Physiological Underpinnings of Compassion

- Immunology
- Neurology
- Endocrinology

- Emotional and physiological status
- Pain
- Functional status
- Cortisol levels
- Reduced anxiety
- Severity and duration of common cold, with change in blood markers
“Hard wired” for compassion

(Post, 2011)

"Medicine is the art of engagement with the human condition rather than with the disease."

-Bernard Lown
The Therapeutic Alliance in Physical Therapy

Therapeutic alliance predicted all measured outcomes:

- Global perceived effects of treatment
- Function
- Pain
- Disability
- .....and this was clinically significant!

(Ferriera et al. 2013)
“The context in which PT interventions are offered has the potential to dramatically improve therapeutic effects.”

Fuentes et al. 2014
Therapeutic interaction enhanced by

- active listening
- tone of voice
- nonverbal behaviors (eye contact, physical touch)
- empathy
- providing a few words of encouragement at end of session (Fuentes et al., 2014)

- Dose dependent response
Called to Care Training Teaches PT Clinics To Become Leaders in Compassionate Care Initiative

Training Focuses On Compassionate, Positive Patient Care for Better Results, Improved Patient Experience

Louisville, KY (PRWEB) April 15, 2014

Texas Physical Therapy Specialists (TexPTS), Evansville-based ProRehab, and North Carolina’s BreakThrough Physical Therapy (BTPT) have become preeminent providers of outpatient physical therapy in their respective regions, thanks to a new compassionate care training initiative aimed at improving patient care, results and overall recovery process.
And finally....We PTs benefit!

- Enhanced physiological function
- Improved resilience to stress
- Self-care and self-compassion = “direct antidotes” for compassion fatigue
Thank You